

9D-HR-19273  
PATENT

### REMARKS

The Office Action dated November 17, 2004, and made final, has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-4 and 6-22 are now pending in this application. Claims 1-4 and 6-22 stand rejected. Claims 1, 7, 14, and 21 have been amended.

The specification has been amended to correct the description of the outer diameter of the refrigerant tube that was introduced with the previously made amendment to Figure 2. Specifically, the last sentence of the paragraph starting on page 3 lines 15 has been corrected to read "Refrigerant tube 12 has an outer diameter 50".

The rejection of Claims 1-4, and 6-22 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention is respectfully traversed.

Claims 1, 7, 14, and 21 have each been amended to recite a tube "having an outer diameter and a substantially circular cross section". Accordingly, for the foregoing reasons, Applicants respectfully request withdrawal of the section 112 rejection.

The rejection of Claims 1-4, 6-13, and 21 under 35 U.S.C. § 103(a) as being unpatentable over A. E. Brickman (U.S. Patent No. 2,620,170) in view of C. A. Heuer (U.S. Patent No. 3,173,479) is respectfully traversed. Applicants note that from the detailed explanation, this rejection appears to be intended to apply to Claim 22 and the rejection is responded to accordingly.

Brickman describes a heat transfer unit, or refrigerator condenser that includes a tube (2) having a plurality of bends (4). A plurality of bent wires (12) extend transversely to the bent tube. Each of the wires includes a plurality of bends (14) so that part of each wire is on each side of the tube. The bent tube has a plurality of return bends therein, all in the same plane.

9D-HR-19273  
PATENT

Heuer describes a unitary heat exchanger fabricated from superposed sheets of metal brazed or pressure welded together to form a flat sheet element (1). A weld inhibiting material (2) is applied between the superposed sheets to define two patterned fluid passageways (5) and (6) joined by an intermediate passageway (7). The sheet element (1) is spirally wound about a central opening (11) into a coil (10) having two substantially cylindrical convolutions (12) and (13), each including one of the patterned fluid passageways (5), (6) between terminal portions (15), (16) and (17), (18). An offset portion (14) includes the interconnecting passageway (7). The sheet element (1) is also provided with a plurality of louvered transfer openings (19) that extend at an angle out of the face of the element. The spiral element can be used as a condenser (10) mounted on a base (26) with a compressor unit (27) within the central opening (11) of the condenser. A fluid impeller (28) is also disposed within the central opening (11).

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been an obvious to one of ordinary skill in the art to modify Brickman according to the teachings of Heuer. As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. *In re Vaack*, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991).

Specifically, Brickman is cited for disclosing a condenser including a tube with a plurality of bends and a plurality of bent wires extending transversely over the tube and Heuer is cited for teaching of a spiraled condenser. The Office Action asserts that it would have been obvious to apply the teachings of Heuer to the condenser of Brickman to form a spiraled condenser. However, Brickman, at col. 2, lines 36-39 teaches that the bends in the tube of the heat transfer unit are all in the same plane, which is not achievable with the convolutions described by Heuer. Changing the condenser to a spiraled shape as taught by Heuer would

9D-HR-19273  
PATENT

require a substantial redesign of the heat transfer system of Brickman for its continued use. Similarly, it is a stated objective of Heuer to provide a one-piece heat exchanger of unitary construction (col. 1, lines 39-43). Thus, Brickman and Heuer, in fact, teach away from each other. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown. Accordingly, Applicants respectfully request that the Section 103 rejection of Claims 1-4, 6-13, 21, and 22 be withdrawn.

Claim 1 recites a method for increasing the efficiency of a refrigerator condenser assembly including a tube and wire member having an inner edge and an outer edge, the method including the steps of "forming the tube and wire member into a spiral including first and second ends and a longitudinal passageway therebetween, said tube having an outer diameter and a substantially circular cross section; and closing the first end, thereby preventing longitudinal air flow through the first end".

Neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest a method for increasing the efficiency of a refrigerator condenser assembly including a tube and wire member having an inner edge and an outer edge, the method including the steps of forming the tube and wire member into a spiral including first and second ends and a longitudinal passageway therebetween, the tube having an outer diameter and a substantially circular cross section, and closing the first end, thereby preventing longitudinal air flow through the first end. Moreover, neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest forming a tube and wire member into a spiral. Rather, Brickman describes a flat wire and coil heat transfer unit where a plurality of return bends are all in the same plane, and Heuer describes a one-piece condenser having channels between welded sheet elements.

9D-HR-19273  
PATENT

Accordingly, for the reasons set forth above, Claim 1 is submitted to be patentable over Brickman in view of Heuer.

Claims 2-4, 6 and 22 depend from independent Claim 1. When the recitations of Claims 2-4, 6 and 22 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-4, 6 and 22 likewise are patentable over Brickman in view of Heuer.

Claim 7 recites an apparatus including "a refrigerator condenser comprising a spiraled tube and wire member, said spiraled tube having an outer diameter and a substantially circular cross section".

Neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest an apparatus that includes a refrigerator condenser including a spiraled tube and wire member, the spiraled tube having an outer diameter and a substantially circular cross section. Moreover, neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest a tube and wire member formed into a spiral. Rather, Brickman describes a flat wire and coil heat transfer unit where a plurality of return bends are all in the same plane and, Heuer describes a one-piece condenser having channels between welded sheet elements.

For at least the reasons set forth above, Claim 7 is submitted to be patentable over Brickman in view of Heuer.

Claims 8-13 depend from independent Claim 7. When the recitations of Claims 8-13 are considered in combination with the recitations of Claim 7, Applicants submit that dependent Claims 8-13 likewise are patentable over Brickman in view of Heuer.

Claim 21 recites a refrigerator condenser including "a tube coupled to a wire member and formed into a spiral, said tube having an outer diameter and a substantially circular cross section, said spiraled tube and wire member defining a continuous layered condenser surface".

Neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest an apparatus that includes a refrigerator condenser including a tube coupled to a wire

9D-HR-19273  
PATENT

member and formed into a spiral, the tube having an outer diameter and a substantially circular cross section, the spiraled tube and wire member defining a continuous layered condenser surface. Moreover, neither Brickman nor Heuer, considered alone or in combination, fairly describe or suggest a tube and wire member formed into a spiral. Rather, Brickman describes a flat wire and coil heat transfer unit where a plurality of return bends are all in the same plane, and Heuer describes a one-piece condenser having channels between welded sheet elements.

For the reasons set forth above, Claim 21 is submitted to be patentable over Brickman in view of Heuer.

For at least the reasons set forth above, Applicants respectfully requests that the section 103(a) rejection of Claims 1-4, 6-13, 21, and 22 be withdrawn.

The rejection of Claims 14-20 under 35 U.S.C. § 103(a) as being unpatentable over Brickman and C. A. Heuer in view of Simmons et al. (U.S. Patent No. 3,865,517) is respectfully traversed.

Brickman and Heuer are described above. Simmons et al. describe an outdoor refrigeration condenser unit serving as part of an air conditioning system. The condenser unit includes a housing (1) and a condenser coil (3). A fan (5) is provided for drawing air over the condenser coil (3). The warmed air is discharged through an opening (7) in the housing (1). As best understood from Figure 2, air enters the housing through louvered openings angled into the housing.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been an obvious to one of ordinary skill in the art to modify Brickman according to the teachings of Heuer, and further according to the teachings of Simmons et al. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination.

9D-HR-19273  
PATENT

Specifically, Brickman is cited for disclosing a tube with a plurality of bends and a plurality of bent wires extending transversely over the tube, Heuer is cited for teaching of a spiraled condenser, and Simmons is cited for its teaching of a fan mounted at the end of an outdoor condenser unit. The combination of Brickman and Heuer frustrates the objectives of both Brickman and Heuer. For example, Brickman teaches a tube having a plurality of return bends therein, all in the same plane, which is not achievable if formed into a spiral. Heuer, on the other hand, has the stated objective of providing a heat exchanger of unitary construction. Further, the adaptation of the Simmons fan to the Brickman condenser only adds to the redesign that would result from the suggested combination. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Moreover, the Federal Circuit has determined that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not

9D-HR-19273  
PATENT

based on Applicants' disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown. Accordingly, Applicants respectfully request that the Section 103 rejection of Claims 14-20 be withdrawn.

Claim 14 recites a refrigerator condenser assembly including "a spiraled tube and wire member comprising a first end, a second end, and a passage therebetween, said spiraled tube having an outer diameter and a substantially circular cross section; a fan blade assembly mounted at said second end and external to said passage; and a closure member mounted at said first end, said closure member preventing air from entering said passage through said first end".

None of Brickman, Heuer, and Simmons et al., considered alone or in combination, fairly describe or suggest a refrigerator condenser assembly including a spiraled tube and wire member including a first end, a second end, and a passage therebetween, wherein the spiraled tube has an outer diameter and a substantially circular cross section, a fan blade assembly mounted at the second end and external to the passage, and a closure member mounted at the first end, the closure member preventing air from entering the passage through the first end. Moreover, none of Brickman, Heuer, and Simmons et al., considered alone or in combination, fairly describe or suggest a spiraled tube and wire member. Rather, Brickman describes a flat wire and coil heat transfer unit where a plurality of return bends are all in the same plane, Heuer describes a one-piece condenser having channels between welded sheet elements, and Simmons et al. merely describe an outdoor condenser unit with a fan in a louvered housing.

Accordingly, for the reasons set forth above, Claim 14 is submitted to be patentable over Brickman and Heuer in view of Simmons et al.

Claims 15-20 depend from independent Claim 14. When the recitations of Claims 15-20 are considered in combination with the recitations of Claim 14, Applicants submit that dependent Claims 15-20 likewise are patentable over Brickman and Heuer in view of Simmons in view of Simmons et al.

9D-HR-19273  
PATENT

For at least the reasons set fourth above, Applicants respectfully requests that the section 103(a) rejection of Claims 14-20 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Thomas M. Fisher  
Registration No. 47,564  
ARMSTRONG TEASDALE LLP  
One Metropolitan Square, Suite 2600  
St. Louis, Missouri 63102-2740  
(314) 621-5070